

# CURRICULUM VITAE

ARAZ HASHEMI

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CONTACT INFORMATION      302-831-2776      UD Department of Mathematical Sciences  
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RESEARCH INTERESTS      Applied probability and mathematical statistics, stochastic approximation and optimization, adaptive filtering and signal processing, system estimation and control, topological data analysis, uncertainty quantification in simulation design

EDUCATION      **Wayne State University**, Detroit, MI

Ph.D., Mathematics, 05/2014

- Thesis Topic: *Adaptive Stochastic Systems: Estimation, Filtering, and Noise Attenuation*
- Advisor: Gang George Yin

M.A., Mathematical Statistics, 12/2012

M.A., Mathematics, 05/2009

B.S., Mathematics, 05/2007

EXPERIENCE

## **University of Delaware**

- Postdoctoral Researcher      06/2014-Present  
Department of Energy research project  
*“Uncertainty Quantification in Materials Design”*

## **Air Force Research Laboratory**

- Research Scientist      05/2013 -08/2013  
Aerospace Systems Directorate -*Autonomous Control Branch*  
S.T.A.R. Development Program  
Supervisor: David Casbeer

## **Wayne State University**

- Graduate Research Assistant      08/2013 - 06/2014  
Award to allow a student to focus on research
- Secretary of *The Academy of Scholars*      06/2012 - 05/2013  
Assisting in administrative duties
- Graduate Teaching Assistant      2007-2009, 2010-2013
- Adjunct Instructor      05/2009 - 08/2010

TECHNICAL  
SKILLS

- Proficient in MATLAB computing and R data analysis software
- Experience with MAPLE, C++, and UNIX shell scripting

PUBLICATIONS

- A. Hashemi, Y. Cao, D. Casbeer, and G. Yin, UAV circumnavigation of an unknown target without location information using noisy range-based measurements, in American Control Conference (ACC), 2014, 2014, pp. 45874592. [arxiv.org/abs/1309.6007](http://arxiv.org/abs/1309.6007).
- A. Hashemi, B. Fitzpatrick, L. Y. Wang, and G. Yin, Robust noise attenuation under stochastic noises and worst-case unmodelled dynamics, International Journal of Systems Science, vol. 45, no. 7, pp. 15631578, Jun. 2014. DOI : [10.1080/00207721.2014.916481](https://doi.org/10.1080/00207721.2014.916481)
- G. Yin, A. Hashemi, and L. Y. Wang, Sign-Regressor Adaptive Filtering Algorithms for Markovian Parameters, Asian J Control, vol. 16, no. 1, pp. 95106, Jan. 2014. DOI: [10.1002/asjc.678](https://doi.org/10.1002/asjc.678)
- A. R. Hashemi, Y. Cao, G. Yin, and D. Casbeer, UAV Circumnavigation Using Noisy Range-based Measurements without GPS Information, to appear in Journal of Dynamic Systems, Measurement, and Control. (2014) DOI :[10.1115/1.4027979](https://doi.org/10.1115/1.4027979)
- A. Hashemi, G. Yin, and L.Y. Wang, Sign-Error Adaptive Filtering Algorithms for Markovian Parameters, in review for *IEEE Transactions on Signal Processing*, [arxiv.org/abs/1212.5185](http://arxiv.org/abs/1212.5185).
- Z. P. VandeGriend, A. Hashemi, and M. Shkroukani, “Changing Trends in Adult Facial Trauma Epidemiology”, to appear in Journal of Craniofacial Surgery (2014).

JOURNAL  
ACTIVITIES

Associate Editor

- Conference on Decision and Control (SIAM)

Reviewer

- IEEE Transactions on Signal Processing
- American Control Conference (IEEE)
- ASME Journal of Dynamic Systems, Measurement, and Control

PRESENTATIONS

- *UAV Circumnavigation without GPS* 06/2014  
American Control Conference
- *Adaptive Stochastic Systems* 03/2014  
Thesis Defense
- *Cooperative Navigation in GPS-Denied Environments* 08/2013  
Air Force Research Labs Seminar
- *Introduction to Stochastic Approximation with Applications* 11/2012  
Wayne State University
- *Adaptive Filtering in CDMA Networks* 04/2012  
Wayne State University

	<ul style="list-style-type: none"> <li>• <i>Character Recognition with Logistic Regression</i> Wayne State University</li> </ul>	12/2011
CONFERENCES AND WORKSHOPS	<ul style="list-style-type: none"> <li>• 2014 ACC American Control Conference</li> <li>• <i>Careers in Industry for Mathematical Scientists</i> IMA Special Workshop</li> <li>• <i>Uncertainty Quantification</i> SIAM Conference</li> <li>• <i>Geometry and Topology in Statistical Inference</i> AMS Short Course (Joint Meetings)</li> </ul>	06/04/2014 04/2014 03/2014 01/2014
AWARDS	<p>Scholar Awards</p> <ul style="list-style-type: none"> <li>• Nakano Award Program for Outstanding Achievement in the PhD Program</li> <li>• Karl and Helen Folley Endowed Mathematics Scholarship</li> <li>• Alfred Nelson Award for Outstanding Achievement in Masters Program</li> <li>• Owen G. Owens Award Outstanding Achievement in Masters Program</li> <li>• Outstanding Undergraduate Award</li> <li>• Phi Beta Kappa</li> <li>• Honor Graduate, Cum Laude</li> <li>• National Merit Special Scholar National Merit Scholarship Corporation</li> <li>• Presidential Scholar Wayne State University</li> </ul> <p>Teaching Awards</p> <ul style="list-style-type: none"> <li>• Recipient of Heberlein Teaching Award</li> <li>• Graduate Assistant Excellence in Teaching Award</li> <li>• Extra Mile Award for Teaching WSU Student Disability Services</li> <li>• Tutor of the Year Award</li> </ul>	04/2014 04/2013 04/2013 04/2009 04/2007 04/2007 04/2007 2003-2007 2003-2007  03/2014 04/2013 03/2012 04/2007